

Message

From: Ho, Yenhung [Ho.Yenhung@epa.gov]
Sent: 4/15/2021 3:17:42 PM
To: Goslin, Kimberly L. [GOSLINKL@airproducts.com]; Keith Adams [kadams@climeco.com]
CC: Albright, David [Albright.David@epa.gov]; Rowe, Wayne S. [ROWEWS@airproducts.com]; Wade Zaluski [WZaluski@slb.com]
Subject: RE: [External] RE: Requesting Meeting to Clarify Class VI Injection Permitting

Keith and Kimberly,

We look forward to meeting the Air Products team next week. My manager and two other EPA members from our HQ will also participate in the call.

Thanks,
Calvin

From: Goslin, Kimberly L. <GOSLINKL@airproducts.com>
Sent: Wednesday, April 14, 2021 2:36 PM
To: Keith Adams <kadams@climeco.com>; Ho, Yenhung <Ho.Yenhung@epa.gov>
Cc: Albright, David <Albright.David@epa.gov>; Rowe, Wayne S. <ROWEWS@airproducts.com>; Wade Zaluski <WZaluski@slb.com>
Subject: RE: [External] RE: Requesting Meeting to Clarify Class VI Injection Permitting

Calvin,

Good afternoon! Here is brief agenda for our call:

- Introductions
- 25 minutes presentation of our plan
- Introduction of area and what data we used to develop the subsurface characterization.
 - Subsurface verification
 - Salinity
 - Reservoir heterogeneity
 - Faults
 - Plume (AoR), Pressure area of review (AoR)
 - 3D seismic design
 - Injection plan and area of reviews
 - Coring Plan

Please let me know if you have any questions. I look forward to meeting you next week.

Thanks,
Kim

Kimberly Goslin

Industrial Gases Americas, Environmental
Air Products and Chemicals, Inc.
7201 Hamilton Boulevard
Allentown, PA 18195-1501
Direct (610) 481-1237
Cell (610) 513-9310

From: Keith Adams <kadams@climeco.com>
Sent: Wednesday, April 14, 2021 9:19 AM
To: Ho, Yenhung <Ho.Yenhung@epa.gov>
Cc: Albright, David <Albright.David@epa.gov>; Goslin, Kimberly L. <GOSLINKL@airproducts.com>; Rowe, Wayne S. <ROWEWS@airproducts.com>; Wade Zaluski <WZaluski@slb.com>
Subject: [External] RE: Requesting Meeting to Clarify Class VI Injection Permitting

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Calvin,

Our team is doing well... some are even dreaming of working in offices again! Hopefully, we all have that option soon.

Our team would be available on April 21st from 10:30-11:30 am PDT. Participating for Air Products will be Kim Goslin and Wayne Rowe of Air Products and Wade Zaluski of Schlumberger, in addition to myself. Kim Goslin will send you a summary of the specific questions/topics we wish to cover within the next couple of days. Based on these topics, we presume you will seek to include other EPA staff members - I will send a MS Teams meeting invitation which you can then forward to any other participants you wish to include.

Thanks for your continued assistance.

Keith Adams, PE.

Keith Adams
Senior Environmental Manager, Policy & Advisory

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From: Ho, Yenhung <Ho.Yenhung@epa.gov>
Sent: Monday, April 12, 2021 2:18 PM
To: Keith Adams <kadams@climeco.com>
Cc: Albright, David <Albright.David@epa.gov>; Goslin, Kimberly L. <GOSLINKL@airproducts.com>; Rowe, Wayne S. <ROWEWS@airproducts.com>
Subject: RE: Requesting Meeting to Clarify Class VI Injection Permitting

CAUTION: *External Email*.

Hi Keith,

I hope you are doing well. We should be available for a call between 10:30am and 11:30 am on 4/21, or between 1pm and 2pm on 4/23. A summary of specific questions in advance of the call will be very helpful.

In the meantime, we encourage the Air Products team to review the Class VI Permit Application Outline, the latest addition to our Class VI information website at <https://www.epa.gov/uic/class-vi-wells-used-geologic-sequestration-co2>.

Regards,
Calvin

Calvin Ho
Groundwater Protection Section
Water Division (WTR-4-2)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105
415-972-3262

From: Keith Adams <kadams@climeco.com>

Sent: Friday, April 9, 2021 1:03 PM

To: Ho, Yenhung <Ho.Yenhung@epa.gov>

Cc: Albright, David <Albright.David@epa.gov>; Goslin, Kimberly L. <GOSLINKL@airproducts.com>; Rowe, Wayne S. <ROWEWS@airproducts.com>

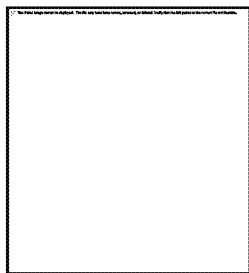
Subject: Requesting Meeting to Clarify Class VI Injection Permitting

Calvin,

I hope you are doing well. The Air Products team continues to advance our CCS project and the elements included in the Class VI Injection Well permit application. We are at a point where we seek confirmation of our data collection plans for the characterization well installation and field seismic study work. We are hoping to begin that work as soon as June of this year. In addition, we are also seeking clarification of some technical aspects of the Class VI permit application itself.

Would you be available for an hour call within the next two weeks where we can discuss these issues and secure your guidance? We would plan to send a summary of our specific questions in advance of the meeting to facilitate a useful dialogue. If you could propose a couple of dates/times that work for your team, we'll finalize a date and send a meeting invitation. Thanks

Keith Adams



Keith Adams

Senior Environmental Manager, Policy & Advisory



610.909.7313

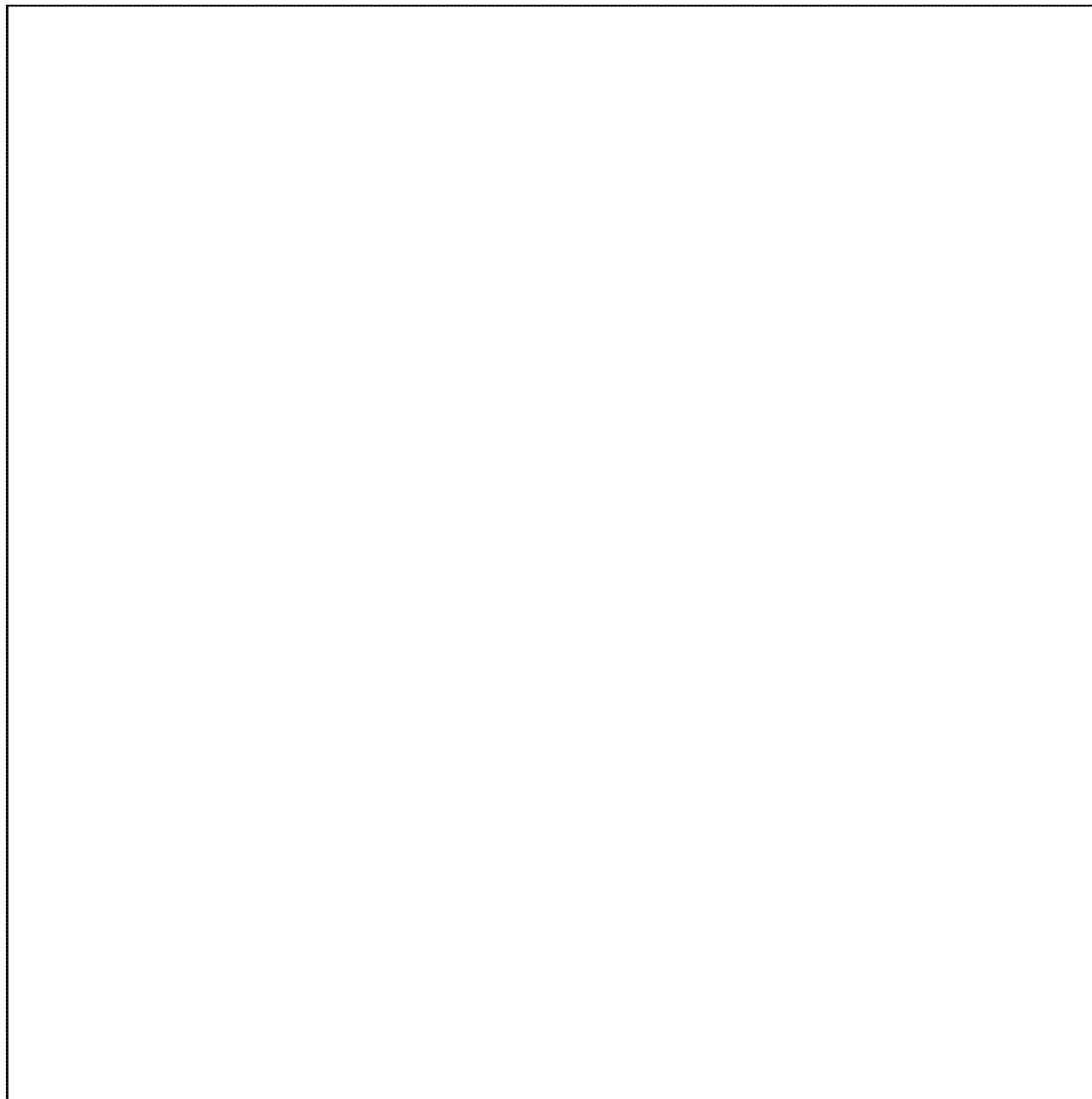


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From: Keith Adams

Sent: Wednesday, November 18, 2020 8:21 PM

To: Ho, Yenhung <Ho.Yenhung@epa.gov>

Cc: Lockett,Jeffrey A. (CONTR <LOCKETJA@airproducts.com>; Wayne Rowe <wayne.rowe@secure-carbon.com>

Subject: RE: Follow-up from Oct 2nd

Calvin,

Thanks for the update. We appreciate the benefit of consistency but hope there is room for flexibility when the specifics of a project dictate the appropriateness of a discretionary interpretation. We'll sit tight while you compile your research. Thanks.

Keith Adams

From: Ho, Yenhung <Ho.Yenhung@epa.gov>
Sent: Wednesday, November 18, 2020 7:03 PM
To: Keith Adams <kadams@climeco.com>
Subject: RE: Follow-up from Oct 2nd

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Keith,

We want to find out from the EPA region(s) who issued Class VI permits with a one-year construction limit as to how the one-year term was selected before providing you feedback. We will get back to you as soon as we can.

Best regards,
Calvin

From: Keith Adams <kadams@climeco.com>
Sent: Wednesday, November 18, 2020 3:20 PM
To: Ho, Yenhung <Ho.Yenhung@epa.gov>
Subject: RE: Follow-up from Oct 2nd

Calvin,

I'm am just checking back-in regarding our interest in better understanding what flexibility exists for extending the initial permit viability term prior to the start of construction under the Class VI injection well program. We would appreciate your feedback.

Respectfully,

Keith Adams, PE

Keith Adams
Senior Environmental Manager, Policy & Advisory

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From: Keith Adams
Sent: Wednesday, November 11, 2020 12:19 PM
To: Ho, Yenhung <Ho.Yenhung@epa.gov>
Cc: Lockett, Jeffrey A. (CONTR) <LOCKETJA@airproducts.com>; Wayne Rowe <wayne.rowe@secure-carbon.com>;
Albright, David <Albright.David@epa.gov>
Subject: RE: Follow-up from Oct 2nd

Calvin,

Thank you for your response. As our team is developing the injection well permitting strategy, we would like to explore the basis for the initial permit having as limited an "expiration" period as one year from approval.

We are developing a "multi-well" project which employs a phased construction approach that would require more like three years for the last of the initially approved wells to begin its drilling. How can we explore a longer period of "permit viability" in our initial application? If we describe the phased construction approach in the applications (but permit for the "full" installation up front, all at the same time), would that help to extend the "start of construction" period? Is there some discretion here? What is the basis for one year versus two years or three years?

Happy to discuss live, if that is easier.

Keith Adams

From: Ho, Yenhung <Ho.Yenhung@epa.gov>
Sent: Friday, October 30, 2020 3:21 PM
To: Keith Adams <kadams@climeco.com>
Cc: Lockett, Jeffrey A. (CONTR) <LOCKETJA@airproducts.com>; Wayne Rowe <wayne.rowe@secure-carbon.com>; Albright, David <Albright.David@epa.gov>
Subject: RE: Follow-up from Oct 2nd

CAUTION: *External Email*.

Hi Keith,

Please see our responses to your questions (in orange below). Let us know if you have more questions.

Regards,
Calvin

Calvin Ho
Groundwater Protection Section
Water Division (WTR-4-2)
U.S. EPA Region 9
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San Francisco, CA 94105
415-972-3262

From: Keith Adams <kadams@climeco.com>
Sent: Wednesday, October 21, 2020 3:14 PM
To: Albright, David <Albright.David@epa.gov>
Cc: Lockett, Jeffrey A. (CONTR) <LOCKETJA@airproducts.com>; Wayne Rowe <wayne.rowe@secure-carbon.com>
Subject: Follow-up from Oct 2nd

David,

Thank you again for assembling the EPA team for the introduction to the Air Products Blue Hydrogen Project. We look forward to starting the permitting process with you. As a follow-up from our October 2nd call, I wanted to ask a few additional questions:

- **Permit Expiration** – When we spoke, we considered some of the pros and cons of submitting permit application for multiple wells, including wells which will not be needed to meet the initial injection requirements for a phased-in CO2 capture capacity demand. It was a good discussion that informs that decision, but there was one aspect we did not have a confirmed answer on – whether an issued permit has an expiration date if construction has not started by a specific deadline. An initial review of the regulations suggested this is not an aspect that is specified, but would appear to be left up to the discretion of the Director. Can you provide any clarification of that interpretation and what the criteria might be for preserving permits to enable phased-in construction?

All of the existing Class VI permits issued by EPA contained a provision that required the permittee to begin construction within one year. EPA Region 9 would likely include a similar provision in any Class VI permit we issue; any request from the permittee for an extension of the one year period would be considered on a case-by-case basis.

- **NEPA Implications** – During our call, you made a passing comment regarding potential consideration in the review process for Endangered Species Act (ESA) and National Historic Preservation Act (NHPA) reviews that might be required. Since the entire CCS project will be undergoing the CEQA process, where these issues will be addressed through their equivalent state statutes, are federal ESA and NHPA reviews still likely to be a requirement under the EPA permit issuance process? Is your expectation the well permit would trigger the NEPA process or would a Categorical Exemption be appropriate given the nature of the limited surface impacts of well construction and the parallel state reviews? Are there any other functional departments within EPA we should speak to about this potential process activity?

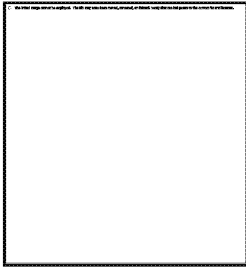
Federal ESA and NHPA reviews are independent of the CEQA. 40 CFR 144.4 requires that EPA consider the potential applicability of several federal laws, including ESA and NHPA under the UIC permit issuance process. However, to the extent we are able to rely upon ESA and NHPA related analyses done to comply with CEQA, we will consider that in our evaluation of compliance with these federal statutes. UIC permit applicants are not subject to the NEPA because EPA believes that the technical analysis to protect underground sources of drinking water, and the public comment and hearing process required in the UIC permit issuance process under the EPA's UIC regulations, and the enabling legislation in the SDWA provide a functionally equivalent environmental review.

- **Share "Phase 1" Geological Study Results** – We know many members of the EPA team on the call have a critical role in reviewing the geologic aspects of the injection process and our project introduction meeting did not discuss very much of that aspect of the project. In fact, we have done a significant amount of work that considered several areas of the Sacramento delta region and has allowed us to focus injection modeling on just a couple of candidate areas. While there is still ongoing modeling work underway to refine the basis for the application(s) we bring forward, your team may be interested in seeing the preliminary work done that has led us to the options under consideration. If you feel there is interest/value in having a follow-up with this purpose, let us know and we can set something up in the coming weeks.

Thank you for the offer. We prefer to wait for an application, or at a minimum, a time when the project applicant has determined with more specificity the details of what they will be submitting in their application.

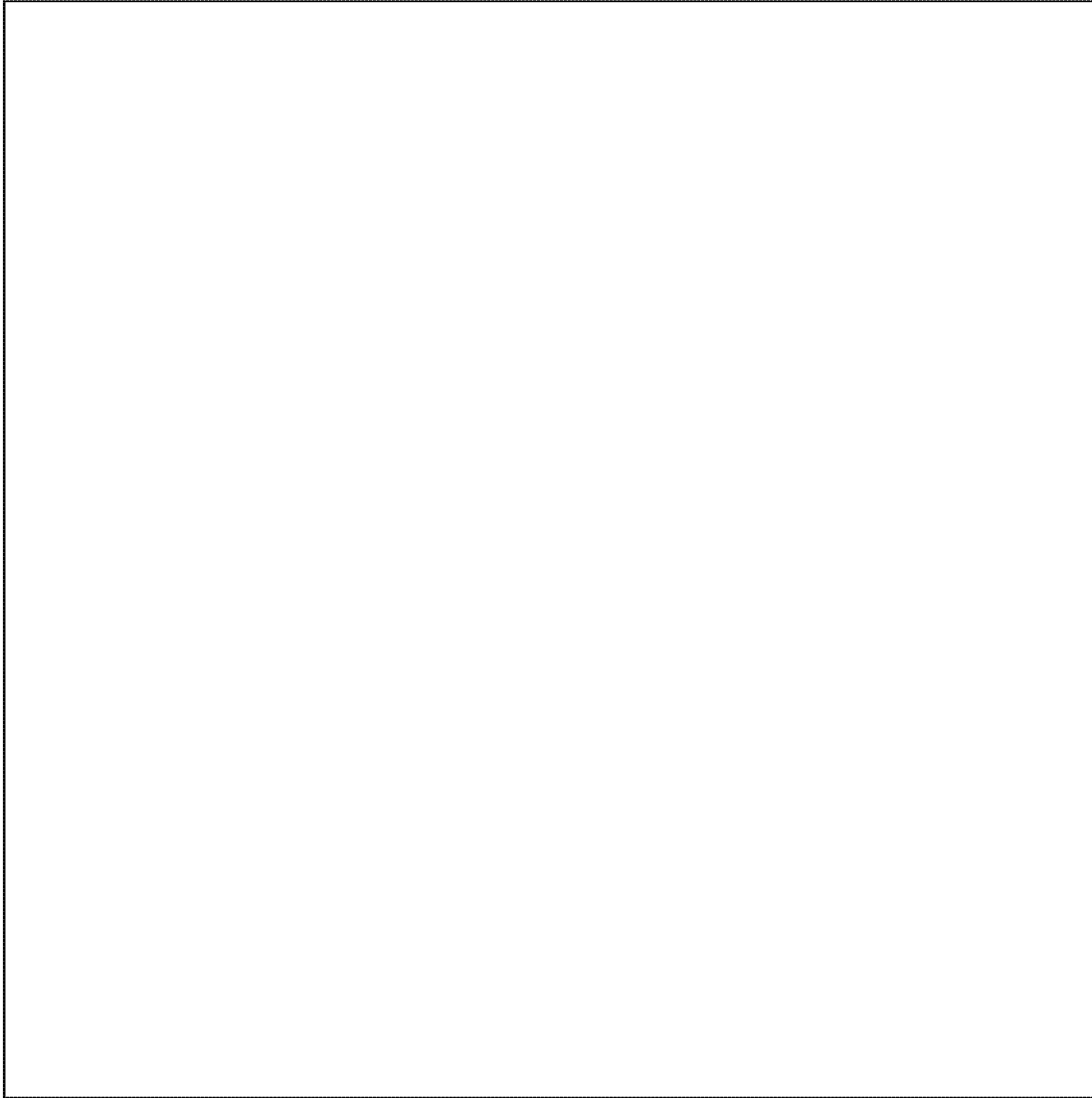
Thanks again for your time and we look forward to continuing a productive engagement on this project.

Keith Adams, P.E



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